

## INTERNATIONAL SEARCH REPORT

International application No

PCT/JP00/00134

CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> B21D 5/02

According to International Patent Classification (IPC) or to both national classification and IPC

## F. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> B21D 5/02Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2000  
Kokai Jitsuyo Shinan Koho 1971-2000 Jitsuyo Shinan Toroku Koho 1996-2000

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	JP, 5-7936, A (Yamazaki Mazak Corp.), 19 February, 1993 (19.02.93), Par. Nos. [0008] to [0017]; Figs. 1,2 Full text; Figs. 1 to 36 & EP, 0392795, A	1 2-42
Y A	JP, 6-304660, A (NISSHINBO INDUSTRIES, INC.), 01 November, 1994 (01.11.94), Claims; Figs. 1 to 10 Full text; Figs. 1 to 10 (Family: none)	1, 7, 12-13 2-6, 8-11, 14-42
Y A	JP, 7-275941, A (AMADA Co., LTD., et al.), 24 October, 1995 (24.10.95), Par. Nos. [0012] to [0017]; Figs. 1 to 3 Full text; Figs. 1 to 3 (Family: none)	1, 7, 12-13 2-6, 8-11, 14-42
Y	JP, 59-88273, A (AMADA Co., LTD.), 22 May, 1984 (22.05.84), page 9, upper left column, line 14 to page 9, upper right column, line 1; Fig. 1 (Family: none)	7
	JP, 9-108738, A (KUBOTA Corporation),	

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
30 March, 2000 (30.03.00)Date of mailing of the international search report  
11 April, 2000 (11.04.00)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	28 April, 1997 (28.04.97), Par. Nos. [0015] to [0017]; Fig. 1 (Family: none)	12-13
X	JP, 11-718, A (AMADA Co., LTD.), 06 January, 1999 (06.01.99), Full text; Figs. 1 to 6	18, 21, 26, 29, 34, 36-37, 39
A	Full text; Figs. 1 to 6 (Family: none)	1-17, 19-20, 22- 25, 27-28, 30-33 , 35, 38, 40-42
X	JP, 10-225724, A (AMADA Co., LTD.), 25 August, 1998 (25.08.98), Full text; Figs. 1 to 5	18, 21, 26, 29, 34, 36-37, 39
A	Full text; Figs. 1 to 5 (Family: none)	1-17, 19-20, 22- 25, 27-28, 30-33 , 35, 38, 40-42